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THE JOURNAL OF PHILOSOPHY

ON HAVING IDEAS IN THE HEAD

THOSE of us who believe that ideas are made of the same kind of stuff as the rest of the world, and that this stuff can be most appropriately identified with the space-time order of physical nature, find our hardest and most notorious problem in explaining how the gobbets of stuff which are called ideas are to be located with respect to the rest of the world, and especially to those gobbets which are called the objects of the ideas. On one view, the ideas are, in typical cases, literally identical with abstract elements of the objects.[1] On another view, the ideas are not identical with elements of their objects, but are literally *parts of the brain* of the percipient organism.

The most conspicuous present-day protagonist of the second view is Mr. Bertrand Russell,[2] who believes that it is the only doctrine which reconciles the apparent facts of causality with those of perception. The theory is at bottom identical with the standard "two-aspect theory" of the text-books, and it has often passed, strangely enough, as "pan-psychism." With some such title it has been advocated recently by Mr. Durant Drake, Mr. C. A. Strong, Dr. Morton Prince, and others. It was consistently propounded at the beginning of the century by W. K. Clifford, and has just now been adopted, apparently from Mr. Russell, by Mr. A. S. Eddington to complete his account of *The Nature of the Physical World.* It has always been a natural resort of the materialist, who has taken the obvious course of identifying the so-called "psychic processes" with what the dualist considered merely correlated physical processes. In this capacity the view has been utilized, albeit without systematic consistency, by behavioristic psychologists—such, for instance, as K. S. Lashley and A. P. Weiss.[3]

[1] The word "abstract" is used in this paper in a sense perhaps somewhat stricter than ordinary. See "The Nature of Universals and of Abstractions," *The Monist,* XLI, 1931, pp. 583–593. It is probably unnecessary to say that the word "idea" is used in its antiquated but natural and familiar sense to refer to any content of consciousness.

[2] In his later works, *Philosophy* and *The Analysis of Matter* (both New York, 1927).

[3] A. O. Lovejoy and H. C. Warren have in different ways used against this type of behaviorism some criticisms similar to those we are to consider below. See Lovejoy, "The Paradox of the Thinking Behaviorist," *Philosophical Review,* XXXI, 1922, pp. 135–147, and "The Anomaly of Knowledge,"

The doctrine has not gone unattacked, and within the last couple of years two critical realists, Mr. A. O. Lovejoy and Mr. J. B. Pratt,[4] have advanced the attack with singular unanimity and unprecedented vigor, the brunt of their assault being borne by Mr. Russell. The question is more than an isolated and academic one because Mr. Lovejoy and Mr. Pratt, for instance, see in it the very crux of their argument for psychophysical dualism, since they regard Mr. Russell's theory as the "last hope"[5] of physical monism; and because certain other philosophers—although not Mr. Pratt and Mr. Lovejoy—see in physical monism the last hope of realism in general. I still believe, in spite of the worst that our authors could do, that physical objectivism ("direct realism") is the most probable hypothesis; but if physical objectivism does have to be given up, I believe that a physical subjectivism[6] like Mr. Russell's is, literally, incomparably more probable than the psychophysical dualism of Mr. Lovejoy and Mr. Pratt. At present a certain emergency is indicated, not only by the duplicate force and enthusiasm with which Mr. Lovejoy and Mr. Pratt have collaborated, but by the solemn silence in which their *tour de force* has been received and by the apparent likelihood that it will be accepted as a well-established conclusion of modern philosophy.

I disclaim any officious desire to act as personal champion of Mr. Russell. My interest is only in the bare tenability of the theory itself in its simplest and severest form, and wherever Mr. Russell's form diverges from this pure type it forfeits the benefit of this advocacy. The critics of the theory, I think, are correspondingly interested to refute, not Mr. Russell *per se*, but this last and most intransigent variety of physical monism. To avoid excessive use and abuse of Mr. Russell's name I shall refer to the generalized form of the doctrine as the endocephalic hypothesis.

Now, the first, the simplest, and the chief of the arguments against the endocephalic hypothesis is that our percepts can not be in our heads because our heads are among our percepts. This argument was used by Bergson before Mr. Russell was in the field. "To make of the brain the condition on which the whole image [of the universe] depends is in truth a contradiction in terms, since the brain is by

University of California Publications in Philosophy, IV, 1923, pp. 3–43; and Warren, "The Significance of Neural Adjustment," *Psychological Review*, XXIX, 1922, esp. p. 484.

[4] A. O. Lovejoy, *The Revolt Against Dualism*, 1930, Chap. vii; J. B. Pratt, *Adventures in Philosophy and Religion*, New York, 1931, pp. 68–78.

[5] *The Revolt Against Dualism*, p. 256; and cp. p. 254. Hereafter I shall refer to Mr. Lovejoy's and Mr. Pratt's books as *Revolt* and *Adventures*, respectively.

[6] More commonly "subjectivism" means, as below, not just the theory that our ideas are private, but the theory that there exists nothing except our private ideas. The ambiguity is regrettable but in this place it is harmless.

hypothesis a part of this image."[7] Mr. E. A. Burtt has used it against the materialistic subjectivism of the Newtonian *Weltanschauung:* "The world which I perceive and know is a world of which my body is a very small part. . . . It is not, and can not be, a world of ideas enclosed within my own brain or of responses made by my cortical centres."[8] So Mr. S. Z. Hasan in his study of *Realism* has admonished Mr. Russell that ". . . sensa, or the world perceived through sense, is not in the brain, but on the contrary, brain is in this world."[9] Mr. Lovejoy writes: "While we can not see our own heads, we can touch them and pass tape-measures around them, and . . . the other perceived objects are perceptibly outside *these* heads. My visual field extends far to right and left of the region occupied by my skull."[10] Finally, in lively dialogue, Mr. Pratt lets Socrates argue in his behalf against Mr. Try-Everything-Once. "My head is in perspective space? . . . And it is seen to be smaller than the mountains and the sky? . . . And they are inside it? . . . This cave, too, is actually inside my head? . . . And my head is actually inside this cave?"[11] The badgered Mr. Try-Everything-Once replies, "There is some misunderstanding here." I should think he might!

The answer to the primary criticism that our percepts can not be in our heads because our heads, and much bigger things than our heads, are among our percepts, is so easy that only a rather elaborate demonstration can show that it is worth making. The answer is that the endocephalic hypothesis is an epistemological dualism, and the whole point of an epistemological dualism is that our heads are *not* among our percepts. Only the percepts of our heads are among our percepts, and by hypothesis the one thing sure about a percept and its object is that they are not the same thing. The theory is in this respect *grundsätzlich* opposed to either variety of epistemological monism, namely, the subjectivistic theory that there exists in perception nothing but the ideas, and the objectivistic theory that there exists in perception nothing but the objects. On the subjective theory there exist only my idea of my head and (let us say) my idea of my house. Certainly the house-idea is not inside of the héad-idea, and in some sense the head-idea is doubtless inside of the house-idea. On the objective theory, there exist only my real head and (let us say) my real house. Certainly the real house is not inside of the real head, while just as certainly the real head is, or may be, inside of the

[7] *Matter and Memory* (tr. by Paul and Palmer), p. 4.

[8] *The Metaphysical Foundations of Modern Physical Science,* pp. 315–316. Professor Burtt tells me that this passage will not appear in a forthcoming new edition.

[9] *Realism* (Cambridge University Press, 1928), p. 225.

[10] *Revolt,* p. 240.

[11] *Adventures,* pp. 74–75.

real house. All that this discovers, however, is that Mr. Russell's dualism is incompatible with epistemological monism,—as it was expressly intended to be.

The endocephalic hypothesis, as a combination of physical monism with epistemological dualism, asserts, first, a real and extensive physical world in which there are real and physical heads, containing brains and attached to real and physical bodies which are in physical interaction with the rest of the world; and second, a system of physiological processes within the brains [12] which, by dint of physical and physiological causal conditions which can be fairly investigated by the physiological psychologist, embody more or less abstract, schematic, and symbolic *copies* of certain features of the world outside the brains and organisms—just as literally as a photograph can copy a movie actress, or just as conventionally as a map or a time-table can copy a railroad system. And according to the endocephalic hypothesis, our ideas, the content of our perceptual consciousness, are literally and existentially identical with these representative processes within our brains.

Now if we test our primary objection to the theory in the terms of the theory itself, which is the only significant way to test it, the objection has collapsed. The real house contains the real head; the real head contains the house-symbol; [13] the house-symbol contains (very possibly) the head-symbol; while the head-symbol may contain nothing but irrelevant bio-chemical processes, or may (if the real head is thinking about epistemology) contain secondary symbols of the house-symbol or of the head-symbol; and so on down, not *ad infinitum*, but just as far as the process at any moment is actually continuing itself, which is seldom very far.

If a critic still asks "How can the perceived house be in your head, if your head is in the perceived house?" perhaps the most effective treatment is to ask him to sit down in a quiet hour before a Royal Baking Powder can and ruminate on the precisely analogous question, "How is it possible for the can to be on the label, when the label is on the can?" [14] Both questions reduce to trivial equivoca-

[12] Mr. Lovejoy (see, e.g., pp. 229–230) sometimes criticizes the endocephalic hypothesis as though its thesis that "All conscious data are brain processes" ought to be simply convertible to "All brain processes are conscious data." But the endocephalic hypothesis is in truth a relational theory of consciousness, and holds that only brain processes of a certain special configuration are conscious data. Such configurations not only may not involve the entire brain, but are doubtless in the strictest sense very *abstract*.

[13] Of course, the house-symbol is real and physically real, in the purest sense; but it is convenient to use the word "real" in the common-sense fashion which opposes it, not to sheer nothingness, but to an imperfect copy.

[14] Just so one might ask, "How can Texas be on the map when the map is in Texas?" or "How can the train be on the time-table if the time-table is aboard the train?"

tions because the words "can" and "perceived house" are used with an ambiguity or ellipsis which is usually innocuous, but which at our close epistemological quarters is fatal. The arguments which we are examining make much use of phrases like "the perceived world," "perceived house," "head which you observe," "the mountains that we see," "the perceptual object," "the cave that you are aware of." And a phrase like "perceived house" is, alas, easy to use indifferently to mean *either* what I have called above the real house, toward which, in some fashion, the act of perception is supposed to be addressed, *or* what I have called the house-symbol, that is, the actual content of the perceptual consciousness as it relates to the real house. Naturally, so long as the phrase is thus misused, a desperate confusion as to what is inside of what can be made to invest the whole problem, but as soon as the confusion is obviated by a happier choice of language,[15] it is evident not only that the endocephalic hypothesis is elegantly self-consistent, but also that it is *prima facie* consistent with the ordinary experience of each of us, which experience possesses just the internal singularity which the hypothesis implies.

Mr. Lovejoy and Mr. Pratt do not, in fact, lay their greatest stress on this primary objection in the transparent form in which I have reported it. But we can now proceed to see to what extent this objection furnishes the substratum for their more sophisticated criticism. In particular, we shall see how Mr. Lovejoy exploits the initial ambiguity to harass his adversary by alleging certain queer and embarrassing consequences which apparently follow from and discredit Mr. Russell's hypothesis. As we examine these supposed consequences, it is essential that we keep clearly in mind our simple picture of the physical situation as it has been outlined by the endocephalic hypothesis. Especially it is essential to remember that it is part of the theory that the idea is not necessarily a precise duplicate of its object, but is a more or less schematic and symbolic representation or abstract projection of it. Indeed, the idea would answer well enough if only its ulterior relations to other ideas should somehow correlate with the ulterior relations of its object to other objects. As a corollary, of course,—and this is really the same thing —the real physical world is very likely, on this theory, a good deal different, in many respects, from our ideas of it.[16] There is no con-

[15] It would not be fair to leave the impression that the ambiguous language was invented by the critics of the theory. The ambiguity is rife, no doubt unavoidably, in the language of Mr. Russell himself, although he seldom falls victim to it. See, e.g., *Revolt*, p. 233, and *Adventures*, pp. 71 and 72.

[16] On the other hand (and Mr. Lovejoy's argument shows the reminder is necessary) our ideas about the rest of the world, or about our heads, are *not* different from, but both essentially and existentially identical with, a certain abstract part of the real physical world, namely, a process in our brains.

tradiction in this, however, and it is indeed what has always been believed by everybody but a handful of solipsists and some naïve objectivists. If the purist objects that an experienced element can not properly be said to "symbolize" something which itself can never be experienced and collated with the symbol, the purist may adjust his *language* to suit himself. It is enough for us to remember that on the endocephalic hypothesis, as a physical monism, such symbolization does not require an unthinkable reference to a metaphysically transcendent world, but only a simple extrapolation from one part of the one world to a neighboring part, a process on all fours with that by which the extremest objectivist would have us refer to the other side of the moon or the inside of a gas meter.

Abandoning any attempt to copy exactly the sequence of Mr. Lovejoy's exposition, let us consider first his account of the quandary of the brain surgeon.[17] The brain surgeon thinks that he is operating on a tumor in another fellow's brain whereas "the only kind of tumor, . . . according to Mr. Russell's view, which brain-surgeons ever . . . observe" is really in the surgeon's own brain, so that the operation is really performed on the surgeon, in spite of the fact that it is the other fellow who dies of the operation. Is it necessary to point out how the force of this depends on a pun? The tumor-image and the operation-image are indeed processes inside the real or original brain of the real or original surgeon; but the real or original tumor and the real or original knife, both of which any surgeon who has ever read any popular books on psychology, physics, or philosophy, believes to be not only numerically distinct, but markedly different from the surgeon's ideas of the tumor and knife, are safely located in the real and original head of the real and original patient, which entities likewise any conventionally instructed surgeon will probably consider to be markedly different from his ideas of them. The surgeon does not die of a tumor-image for the same reason that a ship is not scuttled by taking aboard a chart of the Pacific Ocean; and both surgeon and ship survive in spite of a fact which Mr. Lovejoy stresses as though it had some dark significance—the fact that both the tumor-image and the chart are in their own right *real physical things.*

We need only continue to keep straight our symbols and originals to dispose next of Mr. Lovejoy's problem of the cake of ice.[18] On the endocephalic hypothesis, Mr. Lovejoy complains, the perception of a cake of ice must engender in the percipient brain patches of hardness, coldness, and glittering translucency whose presence in such a place is *a priori* incredible and is materially unverifiable by such

[17] *Revolt*, p. 237.

[18] *Revolt*, pp. 236–237.

robust methods as the introjection of a thermometer into the victim's gray matter. The answer is like the previous one. The real coldness will affect a real thermometer and to all appearances the coldness-symbol will affect the thermometer-symbol; but the coldness-symbol in a man's real brain will not noticeably affect a real thermometer any more than a copy-operation will kill even the most conscientious real surgeon. In similar fashion, to treat of a cognate difficulty, our real heads when we awake each morning do not increase tremendously in size and weight by being suddenly crammed with "extended objects having all the empirical characters of bedroom furniture,"[19] for the same reason that a painting of a battleship need not be larger or heavier than a painting of a basket of strawberries or than a plain coat of enamel.

Attendant once more on the paradoxes of the medical profession, Mr. Lovejoy professes to be anxious because on the endocephalic theory the brain physiologist can never perceive (or "observe") anything but the processes of his own brain; so that he might consider himself to be learning as much about brains when watching fireworks or playing golf as when dissecting other men's brains or reading anatomy books.[20] The cardinal ambiguity here resides in the word "perceive" (or "observe"). In one sense, on the endocephalic hypothesis, we *"perceive"* (are immediately and completely aware of) only the idea or symbol, which is supposedly an abstract event in the real brain. But in the ordinary sense we say that we "perceive" (in ordinary roman type) the real objects of which the ideas are surrogates.

Mr. Lovejoy himself agrees to the truism that bare presence to consciousness does not constitute knowledge.[21] Even if we make the usual but probably unnecessary epistemological abstraction from *behavior,* all knowledge, including all perception worthy of the name, is an affair primarily of syntax, of organization and structure, advancing and energetic. And all our ideas are organized in it to represent and refer to the world of real objects outside of us and them. The raw feels of intuition are blind and dumb. All toothaches are toothaches. All photographs are photographs. All radio speeches are, alas, radio speeches. But if we want to know *about* toothaches, the last thing we want to do is simply to *feel* one. If we want to find out about photography, a photograph of a photographic process will tell us infinitely more than just any photograph. If we want to find out about radio, a radio speech about radio will

[19] *Revolt,* p. 239.

[20] *Revolt,* pp. 233 and 237–238. The word "observe" is a favorite one in such contexts. See esp. p. 237.

[21] *Revolt,* p. 230. Mr. Pratt (*Adventures,* pp. 71–72) seems to suggest the previous distinction but subsequently neglects it.

teach us what we could never learn from the ordinary irrelevant loquacity of the mechanism. And if our physiologist wants to know about brains, he can with perfect justice continue to cultivate brain states which represent brains in preference to brain states which represent fireworks or golf-balls. He can afford only in his more metaphysical moments to meditate that of his own brain he does have an intimate, immediate, but as such perfectly useless awareness which he has not of anything else.

We have hitherto dealt with Mr. Lovejoy's and Mr. Pratt's objections so far as these objections seem to ignore or deny the endocephalic theory's fundamental duality of symbol and original, of idea and object. Now, as a matter of fact, these two critics differ from some others by explicitly acknowledging this duality. They do it, however, only eventually and occasionally, only after they have ridiculed the endocephalic hypothesis on grounds which ignore the duality, and they do it only in order to show that the duality itself is ridiculous and untenable.

Mr. Pratt introduces the concession as though it were an unhappy afterthought of Mr. Try-Everything-Once: "The cave that is inside my head is not the same cave as the cave that my head is inside of." [22] And so Mr. Lovejoy: "Since percepts *must* be in our heads, and since they plainly are not in the heads with which we are, or suppose ourselves to be, already familiar, another head must be postulated to provide the required lodgment for them." [23]

But this duality is not an unhappy afterthought. It is the whole point of the theory, and it is a notion which ought to be as familiar as daylight to Mr. Pratt and Mr. Lovejoy. A large part of their argument is vitiated by their refusal to recognize that the "real physical head" in which Mr. Russell locates our percepts is not a gratuitous, supernatural, and inconceivably queer and remote invention or "addition" [24] of his. *It is just the regular old real physical head* which everybody but the extreme subjectivist believes (and which especially Mr. Lovejoy believes) to exist, and which everybody but the extreme objectivist believes (and which especially Mr. Lovejoy believes) to be both existentially diverse and essentially different from our ideas or percepts of it; the same old head which we all believe is part of a whole physical universe which we can not *in toto* introduce into our consciousness, but which we can "know" and even "perceive" in an indirect way which is satisfactory to most of us.

[22] *Adventures*, p. 75.

[23] *Revolt*, p. 240.

[24] *Revolt*, p. 245. On pp. 232–233 and 238–239, Mr. Lovejoy seems explicitly to deny the possibility of identifying Mr. Russell's idea-container with the ordinary physical head; but the reasons he advances are just the ineffectual ones which we are examining.

To Mr. Lovejoy's complaint, "That the unperceived external counterpart of what I tactually experience, or my neighbor visually experiences, as 'my head' is itself, in any intelligible sense, a head, we clearly are not, upon Mr. Russell's principles, entitled to affirm,"[25] the answer is that anybody can ultimately mean by "real physical head" just something which reports itself to our consciousness in this wise, which has presumably at least some sketchy resemblance to this idea of it, and which acts to affect us in ways which we can plan for on the basis of the qualities and behavior of the idea. These I think are good unequivocal and intelligible reasons for calling it a "head," and most philosophers, including Mr. Lovejoy when he is propounding his own theory, have accepted them as such.

As for the real head's being "unperceived," the latter epithet turns out to be of considerable importance for Mr. Lovejoy. Here, as often, he contrives to make the doctrine sound incredible by calling the real head, for instance, the "unperceived" head, the utterly "imperceptible" head, and contrasting it with "the heads with which we are familiar." He refers roguishly to the invisible and unthinkably huge skull, decorated with cosmically gigantic ears and nose, out beyond the farthest nebula which we can perceive.[26] This is good clean fun, but it comes logically, I think, to nothing. The head which contains my ideas is *unperceivable,* just in that it is not totally contained in those regions of my head (i.e., of itself) or of your head which constitute the immediate content of our consciousness, any more than real tables and chairs and nebulae are.[27] But it is not "unperceivable" in the correct and ordinary sense. Our ideas are not *it,* but they *are* percepts of it. As for its being around and beyond the nebulae, it is only around the nebulae-symbols. The real nebulae are around it, and are as much bigger than it as the astronomer says they are.

This whole question of *size* becomes a stumbling-block when both Mr. Pratt and Mr. Lovejoy base objections on the proposition that the contents of consciousness, being real physical things, *must be just as big as they appear to be.*[28] The landscape as a whole appears to be perfectly huge. Hence any head which would contain it must be of absurdly vast proportions.

Now it does follow from the spatio-temporal physical reality of

[25] *Revolt,* pp. 243–244; and see p. 251.

[26] *Revolt,* pp. 244–245. Cp. *Adventures,* p. 76, e.g.

[27] Literally it comes the nearest being so *perceived,* since a real part of it is contained in *my* percept of it.

[28] *Revolt,* p. 244. *Adventures,* p. 74. The fault in this case also seems to have originated with Mr. Russell. I am reminded of Lucretius's inscrutable statement that the moon is just about as big as it looks.

the conscious content that it is just as big as it "appears," if this means only that it is just as big as it is; but not if it means that it is just as big as we think it is. My percepts do not and can not "appear to be" of any absolute size, nor can they possibly disclose immediately their relative sizes with respect to any unexperienced world beyond them. Even within the field itself I should hesitate to assert that one idea is surely "bigger" than another. What I do find among ideas are clues which enable me to estimate, with more or less assurance, the relative sizes, among themselves, of the real and original objects which I suppose the ideas to represent. It is this estimation, I think, which Mr. Lovejoy and Mr. Pratt mean by the "apparent size" of our percepts. By the *real* size of our percepts we can mean only their size relatively to the constituents of the real physical world. This real size can be ascertained only by locating and measuring them with respect to that world; that is, only by the indirect establishment of some such theory as the endocephalic hypothesis. The mere "enjoyment" of the spread-out-ness of our conscious field will tell no more of its size with respect to the rest of the world than the contemplation of a map will divulge the *scale* to which it is drawn. It will not tell whether it stretches from real star to real star, or occupies only a real cubic millimeter, or even (if we grant the logical legitimacy of Mr. Lovejoy's own theory) occupies a totally different order from that of physical space.[29] The datum could work just about as well, and might feel just about the way it does, in either case.[30]

Sometimes Mr. Russell's critic rather paradoxically (although with much verbal warrant in Mr. Russell's works) translates this puzzle of the disparate *sizes* of the real thing and its ideational symbol, into a question of disparate *spaces*—"physical space" and "perceptual space," for instance.[31] This puzzle is gratuitous because "perceptual space" is on the endocephalic hypothesis simply a small patch of the one physical space which may contain processes with a diagrammatic structure which represents in an unmysterious map-like way some further reaches of that same space.

After what is said, it is unnecessary to treat in detail of Mr. Lovejoy's ridicule, for instance, of the notion that when my head

[29] I imagine that even relative sizes within the conscious field would likewise be established only indirectly, *via* their detailed localization in the one physical world.

[30] A number of careful readings leave me still unable to construe the sudden pronouncement of Mr. Pratt's Socrates that Mr. Try-Everything-Once must believe in "two caves" "*of approximately the same size.*" (*Adventures*, p. 75; my italics.) The subsequent comparison of the "causal" and "perceptual" heads, which is supposed to put the finishing touches on Mr. T. E. O., I am sure embodies a misunderstanding of the hypothesis.

[31] *Revolt*, pp. 241–243; 245 ff., and esp. pp. 249–251.

bumps yours there are on the endocephalic hypothesis *six* heads involved in the transaction.[32] There are six heads only if you count the two copy-heads (which are really no more heads than a chart is the ocean) which are contained in each real head. But having first attacked Mr. Russell on grounds which ignored or denied the duality of copy-head and real head, and then on grounds which acknowledged and travestied the duality of copy-head and real head, Mr. Lovejoy now (if he will pardon the expression) ceases from his horse-play and identifies the second head with the ordinary real physical head. From this vantage point he advances some arguments which are of more serious value, although I think they are far from conclusive.

In the first place, Mr. Lovejoy thinks that the physics of relativity and the quantum describes a real physical head of a sort which acts quite differently from the content of our conscious field and so can not contain that field. It seems to me, however, first, that it is unlikely that the physicist knows all about all the characters of the physical head, and second, that it is unlikely that anybody knows anything about the detailed and mathematic structure of his conscious field, so that an assertion of their incompatibility is, to say the least, premature. Mr. Lovejoy, for instance, thinks it plain that the geometrical relations embodied in his conscious experience are not Minkowskian;[33] but this certitude is a mystery to me, for I have no more notion of the geometry of my ideas than I have of their size, save as I derive it indirectly from the putative geometry of the physical world. I suspect that Mr. Lovejoy is only finding, as one of the ingredients of his conscious experience, the remnants of a common-sense *idea of* a Newtonian geometry which was originally intended for the physical world.

At certain other junctures, Mr. Lovejoy suggests that the physicist finds none of the familiar conscious *qualities* in the whirl of electrons and protons which presumably occupy the real physical head.[34] Since, however, the physicist is resolved to talk about nothing but relational structures, it is not surprising that, in spite of the fact that he never really experiences anything which is not qualitative, he never announces the discovery of qualities. Certainly he is not likely ever to discover an actual *absence* of qualities.[35] To

[32] *Revolt*, p. 245.

[33] *Revolt*, p. 246, and some pages following.

[34] *Revolt*, pp. 234, 239, 252, 254.

[35] Mr. Lovejoy seems to interpret Mr. Russell (*Revolt*, pp. 224–226, 235–236, 249–250) as denying qualities to the physical world outside our percepts. This, I am sure, is a mistake. Mr. Russell ventures that there is not good reason to ascribe exactly the same qualities to both idea and object; but all matter is for him intrinsically qualitative. Hence, on Mr. Russell's theory, the sensa are "generated" (*Revolt*, pp. 226, 249) only in the workaday sense in which acetylene gas and parabolas and steam are generated.

justify in detail the compatibility and compresence of relational structures with sensuous qualities presents no doubt a problem, but enough suggestions are extant toward its naturalistic solution to preclude its being chalked up as hopeless.[36] A captious opponent might indeed complain because Mr. Lovejoy, having once argued that it is silly to locate ideas in our physical heads because we know nothing at all about such mysterious monsters, now argues that it is silly to locate them there because by way of physics we know all about physical heads and their contents!

In the second place, granting an undistorted version of the endocephalic hypothesis, Mr. Lovejoy asks why it is not possible to open another man's skull and perceive the percepts there.[37] He seems a little ashamed of this suggestion, but I think it may prove the best of his arguments. If the brain-state which I enjoy is definitely *like* the objects which it is supposed to perceive; and if your brain-state is definitely like *its* objects; then when I perceive at the same time your brain and the objects which you are perceiving, I ought to find in the brain-state which I enjoy a definite secondary likeness between the idea which represents your brain-state and the idea which represents the object which you are perceiving! The relation of representation, that is, ought to be *transitive*. I think this, in spite of its bizarre finesse, is a real objection, but it is not a final one. The endocephalic hypothesis provides for any amount of superficial dissimilarity between idea and object. What is important for knowledge is only a schematic correlation, so that we can behave successfully with reference to our ideas. Such a schematic similarity might be so remote, so abstract, so diffuse, or so minute, as to escape physiological scrutiny. As a matter of fact there are plenty of physiologists and psychologists who think that they are tracing such an abstract parallelism, while the ordinary working hypothesis of psychophysical correlation takes such a parallelism for granted. When and if our percepts *are* specifically located, it will of course be found that the dipsomaniac's pink rats, for instance, do have mass, obey the laws of thermodynamics, and so on.[38]

Mr. Lovejoy's final objection is that the endocephalic hypothesis can mean nothing but "intra-corporeal solipsism," which is "a self-contradictory doctrine,"[39] since once shut up inside our skins we

[36] See, for instance, Russell's own theory, and the theories of Bergson, Drake, Holt, and Alexander. In this direction, of course, is to be found the reason why ordinary percepts seem to be so "radically different" from the other content of the "physical brain." (*Revolt*, pp. 239–240.)

[37] *Revolt*, p. 238. Compare *Adventures*, p. 69.

[38] Mr. Lovejoy wonders why they don't: *Revolt*, p. 253. Compare pp. 234, 236, 239–240.

[39] *Revolt*, pp. 255 and 256.

could never know anything about what is outside, including the fact that we have skins. This is the most ancient of all arguments against all epistemological dualism, and although I am not an epistemological dualist, I confess that I am unable to see any force in it. A sensitive and docile organism of the type which Mr. Russell supposes, generating ideas in its head at the instance of the physical and physiological causes which the hypothesis describes, might be expected to generate among those ideas not only the complex idea of [40] the rest of the world in general, but in particular and among others the endocephalic hypothesis itself; and by hypothesis this hypothesis would be true. Mr. Lovejoy, like many recent epistemologists, takes too seriously both the question of the location of the conscious datum and the question of its pictorial likeness to its object. The common assumption is false, I think, that we can not go wrong about anything which is identical with the datum (compare Mr. Lovejoy on the physiologist's brain) and can not go right about anything which isn't (compare Mr. Lovejoy on intracorporeal solipsism).

When we consider in retrospect the list of Mr. Lovejoy's and Mr. Pratt's spirited attacks on Mr. Russell, one of the oddest features of the campaign is that although our critical realists are ardent epistemological dualists as well as psychophysical dualists, and although their intention is consequently to belabor Mr. Russell as the last reckless representative of psychophysical monism, in their haste to use any stick to beat such a gay dog, they have laid about them with arguments whose sole force is against, not his psychophysical monism, but his epistemological dualism. The other critics whom we mentioned could argue with more consistency (but no more cogency) because they were *not* dualists. But what Mr. Lovejoy and Mr. Pratt want to prove is, first, that an idea is not identical with its object, and second that it is not part of the physical world at all. In order to prove that an idea is not part of the physical world at all they must prove that it is not part of the percipient's brain. But in order to prove that it is not part of the percipient's brain, they can not resist the use of arguments to the effect that it must be identical with another part of the physical world, namely, with the object of the idea! If Mr. Pratt and Mr. Lovejoy had been successful, they would have refuted both of their own fundamental theses.

The cardinal ambiguity of "the things we perceive," for instance, is worse than ever on Mr. Lovejoy's and Mr. Pratt's theory, because their diremption is not just between two parts of the physical world, but between a physical object and an immaterial and habitationless idea whose link and likeness with the physical object it is the boast of

[40] Might, in Mr. Lovejoy's odd phrase, p. 255, "lay hold upon."

their philosophy to declare unique and ineffable. If we are ever to refer incredulously to the grotesquery of an "unperceived physical head," it ought to be with reference to these more grandiose dualists for whom the difference between the idea-head and the real head is vaster than the abyss between the stars or than the difference between onions and onomatopoeia. Following their play on words, we can remark that according to their doctrine the brain surgeon "perceives" himself to be slicing gray chunks out of his own superlunary *mind*. The brain physiologist, whether he watches fireworks or brains or books, can really do nothing but introspect the pure pneumatics of his own psyche! The hardness and coldness of the "perceived ice" are bodiless residents on the astral plane where, fortunately for the theory, no thermometers can be applied to them. When you and I bump our heads together there is wrack and ruin in two worlds at once which involves the collision of two physical heads and four psychic heads. Our philosophers who complained because the considerable *size* and the Newtonian geometry of their ideas do not jibe with Mr. Russell's theory, now announce that their ideas have no size at all and are in a limbo beyond the pale of geometry; while they are spared the question why a man's percepts can not be spied upon by anybody else only by the *ad hoc* stipulation that mental content is that sort of thing—that is, only by amending their hypothesis so that it has no observable implicates which could either verify or refute it. Most remarkable of all, however, is Mr. Lovejoy's reckless use of the general argument against all epistemological dualism. It is remarkable because if on Mr. Russell's hypothesis we can not cognitively get outside of our own skins, on Mr. Lovejoy's hypothesis we can not even get as far as the *inside* of our own skins. We do not get within hailing distance of any shred of the physical world—although Mr. Lovejoy provides that the physical process to which our consciousness approaches the nearest (in some special and metaphorical sense) is inside our skins.[41]

Whatever its detailed faults may be, *The Revolt Against Dualism* remains a marvel of painstaking analysis and ingenious critique. It contains a multitude of subtle insights which must bring profit and pleasure to both monists and dualists. But I think that in its attack on Mr. Russell's "latest doctrine" it fails crucially to dispose of a formidable leader of the Revolt against which it is revolting. I do not claim that Mr. Lovejoy scores no points at the expense of Mr. Russell, especially at the expense of the more idiosyncratic and decorative aspects of his philosophy, but I do claim that, like Mr.

[41] He seems to be aware of the difficulty on pp. 51–52, but handles it in a gingerly fashion at variance with his confidence when he is attacking Mr. Russell.

Pratt, he has not even come fairly to grips with the central doctrine of the physical character and intra-cranial location of our percepts.

My ideas, I think, are not for the most part in my head. The endocephalic hypothesis is on various grounds a rather less likely hypothesis than either pan-objectivism (the theory that my ideas are literally abstract constituents of perceived objects external to the organism) or even, perhaps, objective relativism (the theory that they somehow inhere in the total transaction of the organism with the object). But I do think that my ideas are *somewhere*, and not pale wanderers without local habitation or a name. I think that almost any disposal of them is more probable than a conclusion which would so thoroughly violate all the canons of scientific inquiry, and I think that Mr. Pratt and Mr. Lovejoy have done philosophy a disservice by their insistence that the aversion of so much of recent scientific philosophy to such a barren virgin has been nothing but an emotional repugnance. It is no accident that our authors' own arguments for dualism can merely attempt to eliminate its monistic alternatives. Dualism remains to the end negative and undefined, devoid of empirical implications, and as against its advocates' policy of pure destruction, a positive hypothesis like Mr. Russell's needs only to avoid destruction to celebrate perhaps a greater triumph than it deserves.

It is conceivable that internal contradiction may eventually be discovered in the endocephalic hypothesis or that evidence may come to light to refute it once and for all. My own guess, however, is rather that it will turn out to be one of those theories which are damned by their ultimate irrefutability, so that it must drift forever in the logical doldrums with such hypotheses as solipsism, the theory of free will, and the doctrine of human immortality.

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MEASUREMENT RELATIONSHIP AND CORRELATION

THE use of quantitative methods in psychology, as well as in the other social sciences, is constantly increasing. In other words, verbal descriptions of psychological phenomena are giving way to quantitative descriptions. This shift is of particular significance with reference to the definition of terminology. In a verbal analysis the ambiguity of words is at once the refuge of the slovenly and the despair of the precise thinker.

Many bitter controversies owe their origin and propagation to the nebulous character of the terminology employed. Even among those more conscientious workers who have striven to define their

terminology, their definitions have usually been stigmatized with as much if not more ambiguity than the terminology employed in presentation of their basic concepts. New schools of psychology have differentiated themselves from traditional schools, not by developing new concepts and discovering new phenomena, but simply by describing the older phenomena with a different terminology. To be sure, there may have been a shift in emphasis from one concept or set of concepts to another, but in the main the similarities are more striking than the differences, once the verbal formulæ are reduced to a common denominator.

But in a quantitative analysis of psychological data the choice of terminology is much less at the option of the individual investigator than is the case in a verbal analysis. The words employed have precise significance in terms of physical or mechanical operations. For this reason it is not only desirable but absolutely imperative that the terminology, however arbitrary, be uniform and entirely unequivocal.

In any quantitative analysis we deal primarily with numbers. The ways in which numbers may be combined and manipulated are perfectly definite. Specific names have been adopted to designate the various operations or groups of operations to which numerical data may be subjected. Psychologists who are not familiar with these operations and with their significance frequently use the terminology associated with them in an erroneous or misleading sense.

The concepts involved in any quantitative analysis may be divided into three general categories, namely, measurement, relationship, and correlation. These three categories are interdependent, but each has come to have a very definite meaning of its own from the point of view of statistical analysis. Their particular importance lies in the basic rôle they play with reference to prediction. That their meaning is frequently not appreciated is evident from the sense in which they have been used in many of the articles and books which have appeared during the past ten years.

Perhaps the simplest of the three basic concepts is that of measurement. Certainly the idea of measurement is not of recent origin in psychology, but the vogue which it enjoys at present is unquestionably greater than it was in the last century or the first two decades of the present. However, even with all its current popularity, the meaning and ultimate importance of measurement is far from obvious. The term itself implies that there is something to be measured. It makes no assumptions, however, about what is being measured or the utility of the measuring process.

A scientific measurement is always expressed in numerical terms. Unfortunately it is possible to obtain these numerical values without

knowing what is being measured. Any structure decomposible into elements or units which can be counted may have as its measure the number of elements into which it is divided. Thus, if it is possible to count the elements, it is possible to measure the entity. Conversely, any group of elements, homogeneous with respect to a specified quality, may be said to define a quantitative entity, and the number of elements in the group is the measure of the magnitude of that entity.

Evidently the operations of decomposition and synthesis may be performed in numerous ways. Taking such a simple thing as a typewritten page, it may be quantitatively characterized in a great variety of ways. It may have as its measure the number of letters on the page, or the number of words. Again, the number of verbs, nouns, or some other part of speech may be used as a quantitative measure. Or we may describe it in terms of the total number of square inches contained in it, or by merely the number of square inches of white space. These are only a few of the possible ways in which such a trivial entity as a typewritten page may be described by counting the number of elements, homogeneous with respect to a given attribute, which it contains.

This is all by way of emphasizing how readily measurements may be obtained. Whenever counting is possible measurement is possible. Measurement in the physical sciences has been employed much longer than in psychology, or, for that matter, in any of the social sciences, and parallel with the measuring activities of the physical scientists have come the discovery and precise formulation of new laws.

The result has not been altogether fortunate for psychology. Psychologists have noted the major rôle which measurement plays in the physical sciences together with the phenomenal development and applications of physical laws. Many, however, have tended to regard the quantitative approach as an end in itself, not fully realizing that it is at best only a means. This tendency to exalt the importance of measurement, *per se,* coupled with the facility with which measurements may be derived, has resulted in the accumulation of vast bodies of quantitative data.

Psychologists have counted the thousandths of seconds elapsing between a given stimulus and a given response and called this number reaction time. They have counted the number of millimeters between two points of dermal stimulation which would, with a given degree of consistency, be reported as two points, and called it the dual point threshold. They have counted the number of times a rat enters a blind alley before he finally travels from the starting box to the goal "without error" and have called this learning ability.

They have counted the number of items in a series of conundrums which have been reacted to in an arbitrarily specified manner and have called it intelligence.

These are only a few of the many things which psychologists have counted and named, with the result that many cynics crowd the side-lines and chorus "what of it?" while others nestle with comfortable confidence in the depths of their armchairs and weave new configurations from the faded verbal strands of the older systems of psychology.

But, granting the scientific sterility of mere counting, neither the skepticism of the cynics nor the regression of the more positive critics can claim full justification. It is no indictment of the counting method that few startling facts have sprung from the vast accumulation of numbers. Nor should the counting method be condemned because many of the conclusions drawn from it have been equivocal and often conflicting. The utility of the counting method lies not in the multiplicity of things which may be counted, but rather in a heuristic determination of what shall be counted and of how the numbers resulting from the counting process shall be manipulated. Almost anyone can count, once the units to be counted are specified, but a great deal of discrimination is required to select those units whose counted numbers will yield significant results. And not only discrimination, but also considerable imagination and ingenuity is required for combining these numbers in such a way that they will have a high degree of scientific value.

To say that psychologists have been for the most part occupied with aimless tabulation or with spinning high-sounding theories from ambiguous phrases would be grossly unfair. The quest for significant relationships among phenomena has been arduous and persistent, although by no means universal. The terms "relationship" and "correlation" have become by-words of the psychological fraternity. And whatever meaning these words convey or in whatever sense they have been employed, there is always the implication of two or more entities or phenomena between which the relationships or correlations exist.

As previously indicated, measurement, relationship, and correlation are the basic concepts involved in any complete quantitative analysis. It is the measuring or counting process coupled with an appreciation of the concepts of relationship and correlation which has been responsible for the success of research activity in the physical sciences. The failure to understand the interdependence of these three concepts has contributed largely to much of the confusion and contradiction among psychologists. While the concept of measurement has been relatively clear in their thinking, the rôle

which it plays in a precise definition of relationship and correlation as these terms are employed in quantitative analysis has not been so evident. Furthermore, the terms "relationship" and "correlation" have frequently been regarded as synonymous, whereas the two are quite distinct in meaning.

To bring out this distinction, let us first consider what significance measurement has for relationship. By relationship in the quantitative sense we mean that if the magnitude of one phenomenon changes, the magnitude of another changes also. But we mean more. We mean that as the magnitude of one phenomenon varies, the magnitude of another varies in some specifically defined manner.

It is not this concommitant or sequential variation of two or more variable phenomena to which the term "relationship" refers. Rather it has a precise mathematical significance. A relationship in quantitative analysis is always expressible in the form of a mathematical equation. Having given a certain measure of one variable and a subsequent measured change, the relationship tells us how much will be the measured change of the other variable. The ratios of these measured changes may be constant for any arbitrarily selected value of the first variable, in which case we say that the two magnitudes vary proportionally. This type of relationship we describe as a linear or straight-line relationship. This is the simplest form of relationship. It may be that the ratio of the changes in magnitude varies as the magnitude of one or the other of the variables. In this case the relationship is curvilinear. There are many other more complex ways in which the ratios of these changes in the magnitude of the two variables may vary. These, however, need not be discussed here.

The fact that relationship may be expressed in terms of mathematical equations makes possible prediction in any science, and science is successful only to the extent that it can predict from the change in one or more variables what will be the change in another variable. Relationships can not be determined unless first the counting process has been carried through, but the measurements as such resulting from the counting process are of no value in prediction.

The best known mathematical formulation used to express a relationship between psychological variables is Fechner's Law. This law describes the relationship existing between the magnitude of a stimulus intensity and the magnitude of the subsequent sensation intensity. It states that the ratio between a small change in the magnitude of the stimulus intensity and a subsequent small change in the magnitude of the sensation intensity is directly proportional to the magnitude of the stimulus intensity from which the change was measured. Mathematically, it states that the sensation intensity

varies as the logarithm of the stimulus intensity. This is a curvilinear relationship as distinguished from a linear relationship.

The counting processes involved in measuring changes in stimulus intensity are comparatively simple. Those for measuring changes in sensation intensity are considerably more complex. Various counting processes have been developed for measuring these changes in sensation intensity. They are commonly known as the psychophysical methods.

But while it is theoretically possible to determine how a change in one variable is accompanied or followed by a change in another it is frequently found that the ratios of these changes vary from one time to another, so that, having given the magnitude of one variable, we can predict only within certain limits the value of the other. This is what we mean by the term "correlation." If we can predict within close limits, then we say that there is a high correlation between the two variables. If the limits are wide then we say that the correlation is low.

A correlation coëfficient is sometimes referred to as a measure of the relationship between two variables. More precisely it is a measure of the degree of relationship between the variables.

The limits within which the magnitude of one variable may be determined, having given the value of another, may be unnecessarily large because of the fact that the wrong relationship has been assumed. For example, if we assumed that the magnitude of the sensation intensity varied as the magnitude of the stimulus intensity rather than the logarithm of this intensity, then we would find the limits within which we could predict sensation intensity from stimulus intensity greatly increased for certain ranges of the stimulus magnitude. Consequently, we would be led to the conclusion that a much lower correlation exists between stimulus and sensation intensity than is actually the case. The correlation between variables is always a function of the type of relationship which is assumed to exist between them.

Most of the correlation coëfficients which have been calculated from psychological data are based on the assumption that a linear or straight-line relationship exists between the variables correlated. In general these assumptions have been adequate in view of the difficulty of obtaining accurate measurements.

In dealing with complex psychological phenomena, however, it is usually unsafe to assume that a change in one variable is completely determined by a change in another variable. In most cases a change in one variable may be regarded as the resultant of changes in a great many other variables. If changes in only one of these variables is measured the limits within which changes in the first variable

may be predicted may become rather wide, for concommitant with changes in the prediction variable may occur opposing changes in the other variables.

Even assuming that the counting processes have been correctly carried through, so that the measurements are accurate, the limits within which the value of the first variable may be predicted will vary according to how many of those variables, changes in which are accompanied or followed by changes in the predicted variable, are taken into account, and also according to the degree of accuracy with which the relationship between all the variables is determined.

Hence, in order for the counting process to be useful in prediction it is necessary to know what to count and what to do with the numbers resulting from the counting process.

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BOOK REVIEWS

Scepticism and Construction: Bradley's Sceptical Principle as the Basis of Constructive Philosophy. CHARLES A. CAMPBELL. New York: The Macmillan Co. 1931. Pp. xxiv + 322.

It must be remarked at once that Professor Campbell's book is both a valuable addition to bradleiana and a provocative contribution to philosophy. He approaches very closely to a true critical estimate of the misunderstood author of *Appearance and Reality,* and at the same time presents a sober analysis of the strong points and defects of "idealism" which comes welcomely at a time when those who wish to use that term are touted or flayed without stint but only rarely listened to.

Scepticism and Construction promises in its opening pages to do much toward a breaking down of the superstitions which surround Bradley's name and the reader is given a hint of the inadequacy of nearly all Bradley criticism. But the promise is not wholly fulfilled: very early the analysis slips back into the traditional vein with recurrent emphases on "non-contradiction" and "self-consistency" as the mark of the real established in *Appearance and Reality,* with a careful but redundant explanation of "internal" and "external" ground, and with an astounding (astounding in view of the freshness of Professor Campbell's early approach) absence of any reference to the central doctrine of "immediate experience." The principle of degrees of truth and reality, so important to Bradley, especially at the end of his career, is made "contradictory" (p. 32) by the introduction of a distinction between "pure" and "phenomenal" self-consistency which it would be, I think, impossible to

document outside the pages of *Appearance and Reality*—a work doggedly clung to by critics despite the express recantations of its principles in the later *Essays on Truth and Reality*. Advocacy of a *supra*-relational Real is also consistently imputed by Professor Campbell to Bradley although the whole of chapter six of the *Essays* is devoted to a denial of this. Bradley says at one point, "We never in one sense do, or can, go beyond immediate experience."[1] And immediate experience prior to this (though no longer) has always been *sub*-relational.

The gravest fault in the book, however, is the misconstruction of Bradley's "scepticism." To put the matter in the simplest way, Bradley's scepticism was actually due to his ability (an ability which he shared with Dewey) to see cognition *in perspective*. Again and again he stressed this: "The absolute right owned by every side of life is . . . conditional on its service, and on its acceptance of limited value and reality."[2] This seeing knowledge in perspective Professor Campbell fails to appreciate. "I am prepared," he remarks, "to argue that it is only if the 'order' postulated by the intellect be interpreted as an order *not* intelligible that Reality can in the end be legitimately taken as 'cosmos' rather than 'chaos'" (p. 80). Bradley would have pounced on this at once and objected that the "'order' postulated by the intellect" is an order only of the cognitively real and not of "Reality," which is conative and emotive as well as cognitive, i.e., *felt* as well as known.

Professor Campbell is not unaware of the basis of his break with Bradley. "In common with, I imagine, the large majority of Bradley's readers, I find myself quite unable to accept the view that in experience we start from (or, indeed, at any time possess) a 'felt unity' . . ." (p. 51). But unfortunately this recognition does not prevent his exposition of Bradley from being vitiated by a false emphasis on Reason, Mind, cognitive experience, on all the categories which in *Appearance and Reality* were regarded as "ultimate." It is revealing of his critical position, for example, that Professor Campbell in a "Note on Bradley's Criticism of the 'Reality' of the Finite Self" (pp. 179ff.) makes not one mention of the treatment of this question in the *Essays*, the whole analysis proceeding on the basis of chapter nine of *Appearance and Reality*, and being accordingly, in the light of Bradley's later position, entirely inadequate.

Constructively the book is a defense of "Supra-rationalism." "Supra-rationalism denies the omni-competence of mind, denies that 'mind is in a manner all things' (if we interpret that maxim in its strictness). It contends that mind is a function limited by definite conditions, and that the apprehension of these conditions must in

[1] *Essays on Truth and Reality*, p. 190, n. 1.
[2] *Ibid.*, p. 470.

the nature of the case be a 'knowing that,' never a 'knowing how'—since a 'knowing how' would imply that the conditions in question were *not* limiting conditions" (p. 308). The development of this thesis is full of difficulties, not the least being the author's assertion that "to condemn the world of experience . . . it is not necessary that we should know what reality *is*. It is enough if we know what reality is *not*" (p. 76). This immediately raises the whole question of negative judgment, and against the objection that no negation can be significantly made save in the light of a positive ascription of character which would *exclude* the negative character, Professor Campbell has a ready but suspiciously *ad hoc* defense. "The exclusion of the particular character implies the affirmation that the thing is *of the general character* of which the particular character is an instance" (p. 77. My own italics). This is a highly debatable assertion (debatable, that is, if assumed as complete), for to be "of a general character" is always to be of that character *in some definite respect;* and to know that "the heart of this flower is not yellow" (Professor Campbell's illustration) is surely to know more than merely that "the heart of this flower is coloured." Building on this, Professor Campbell points out that to say Reality is not self-contradictory is to deal with what is "itself of ultimate generality; or, to put it otherwise, that of which it (relationality) is an instance is just 'character-in-general' . . .", in which case "we know that the apprehension of this connection must be immediate, since it is the logical antecedent of all mediating processes" (p. 78), a judgment "which is by nature ungrounded, intuitive, or immediate" (p. 79). The upshot of the argument is to establish Reality not as *non*-rational in the modest sense in which Bradley used the term, but as *supra*-rational and *supra*-experiential. This position once asserted, it is ably defended throughout the remainder of the book by research in the fields of moral obligation and moral religious values.

Professor Campbell's preface is as stimulating as any chapter in the essay proper, neat shafts being darted at the popular critic of philosophy as "escape," and the equally popular and confused advocates of philosophic scientism. "Here I am quite impenitent," Professor Campbell states. "I do not believe that on any single major issue raised in this book has the scientist any relevant comment to make. . . . Why it should be supposed that recent advances in the *findings* of science—however exciting—should in any way mitigate the disqualifications intrinsic in the *method* of science, is a question which the 'scientific' philosopher seems to me never to face" (p. x).

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Immanuel Kant in England: 1793–1838. RENÉ WELLEK. Princeton: Princeton University Press. 1931. Pp. xi + 317.

This decade has already seen the publication of several volumes working toward a critical estimate of the place of idealism in English philosophy, and to this end Dr. Wellek's book will be a study whose importance (at least for academicians) can scarcely be exaggerated. The influence of Kant on British thought before Green has but recently been given close consideration, earlier historians assuming apparently that Kant's place in the British Isles was so negligible in the face of the lusty proselytizing of the Utilitarians and the canny attempts of the Scotch philosophers to answer Hume on their own initiative that it needed at best a word or two of mention. The net result has been to give us (at least by implication) a picture of the first two decades of the last century in England as a sort of philosophic doldrums so far as Kantianism is concerned. Dr. Wellek's book should destroy this illusion completely. He has taken the forty-five years preceding 1838 (when the first complete English translation of the *Critique* appeared) and combed them thoroughly for all indications of the lessening of English and Scotch insularity.

The book is divided into five main sections: I. "Kant's Introduction to England," which contains a detailed account of the earliest notices of the *Critique* in the British Isles prior to 1800; II. "The Scotch Philosophy and Kant," a careful analysis of the parallelisms and contacts between the Kantian answer to Hume and those of the Scots; III. "Coleridge and Kant," the most complete critical treatment of Coleridge as philosopher which has yet been published; IV. "The Romantic Generation and Kant," a long and unprejudiced discussion of the Kantian and anti-Kantian aspects of Crabb Robinson, Wordsworth, De Quincey, and Carlyle, with a very sane page and a half that should discourage any future effort to saddle Shelley with Kantian bias pro or con; V. "Two Enthusiasts," a delightful chapter devoted to the philosophic vagaries of one Richter (a painter) and one Wirgman (a bourgeois jeweller), both bitten by the Kantian bug as early as 1795 and loud, if incoherent, proponents of the German's philosophy long into the nineteenth century. In explaining the inclusion of this section, Dr. Wellek remarks that though both Richter and Wirgman "have remained practically unknown to modern scholarship, they deserve some attention, if not for their own sake, at least as highly interesting and diverting illustrations of the background out of which grew the thought of the English romantic period" (p. 205). But the quaint section needs little apology.

Dr. Wellek has drawn largely on unpublished sources and constructed an historical study that displays not only its author's remarkable capacity for careful research, but a certain geniality and

deftness of approach with which careful research is but rarely tinctured.

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McTaggart. G. LOWES DICKINSON. (With chapters by Basil Williams and S. V. Keeling.) Cambridge: University Press. 1931. Pp. viii + 160.

Although his name appears on the title page, Lowes Dickinson assures the reader of *McTaggart* that his connection with the memoir consisted mainly in "arrangement of the material," a task undertaken when illness caused Mr. Wedd, McTaggart's oldest friend, to resign it. Even with this in mind, though, the discerning critic can scarcely exonerate Mr. Lowes Dickinson from all responsibility for the book's weaknesses. Some fault perhaps should be imputed to McTaggart himself for not having been a better biographical subject; yet the materials for a fairly interesting story were there, and when his encomiasts allow McTaggart himself to speak (as they do at commendable length) the result is unfailingly provocative. But, taken as a whole, the biographical portion of the book is dull.

From the opening sentence which states piquantly that "John McTaggart Ellis McTaggart was born on September 3d, 1866, at 28 Norfolk Square, London," to the end of chapter seven (characteristically entitled "The End") the eulogy is prosy, often tasteless, and, coming from one who has walked so often in the Academy, singularly unimaginative. Nor does the book, despite its eulogies, succeed in presenting McTaggart as other than an extraordinarily ordinary person. Ironically enough this result is achieved by the very earnestness of the authors. For example, it is noted that young McTaggart was unpopular at school because of his family's agnosticism, and "one is immediately reminded of Shelley at Eton" (p. 12). The next sentence reads: "But whatever Jack may have thought one may be assured that he did not parade his views with the passion of that great rebel. For the firmness of his opinions was accompanied, it would seem, even at this date by his sense of solidarity with any institution to which he happened to belong." This predilection for the nether aspects of Toryism is stressed more than once by the authors and "came to a head when McTaggart took a leading part in the expulsion of Bertrand Russell from his lectureship" (p. 116). The same monopticism is evident when the authors rationalize the "inevitability" of McTaggart's being whole-heartedly chauvinistic at the beginning of the war "without either desiring or attempting to know anything about the real causes and the probable effects of the catastrophe" (p. 116).

Perhaps, however, the memoir was not meant as scented eulogy. Perhaps it was collected and edited as an attempt at realistic biography. Unfortunately just enough indication of both purposes is given to make the effect hopelessly ambiguous. And no motive can excuse the plodding style.

Mr. Keeling, in an appended essay on "McTaggart's Metaphysics," redeems the book to some extent by doing an exceptionally lucid and thorough job of exposition. In thirty pages he presents a detailed and documented analysis of the salient features of McTaggart's philosophy, which for clarity and simplicity can scarcely be matched by any essay of similar limited compass.

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The Origin and Development of the State Cult of Confucius. An Introductory Study. JOHN K. SHRYOCK. New York: The Century Company. 1932. Pp. xiii + 298.

We are fortunate to have in a Western language this critical study of the state cult of Confucius. The author does not exaggerate when he says (Foreword, p. viii) that "it is probably the most comprehensive account of the cult of Confucius that has yet been made in a European language. In fact there is not yet in the Chinese language a study of this cult from the genetic point of view—though, of course, all the materials for such a study are there—buried, however, in a variety of documents not easy to analyse and interpret. The mass of information, therefore, which the author assembled is necessarily the fruit of a long and tedious inquiry.

Much of the volume is given over to a tracing of the historical and intellectual background in which the state cult developed in the past two millenniums. This the author does with admirable proportion, and in a manner unusually convincing, with the result that the book may be read with almost equal profit as an introduction to Chinese civilization. The specialist will say that too much space was devoted to the background, and not enough to such details as temple plans and records, ritual observances, ceremonial music, etc. Each of the latter subjects, however, is worthy of special treatment in itself, and perhaps did not come within the scope of what the author meant merely to be "an introductory study."

In tracing so vast a background the author has necessarily to lean heavily on the investigations of others whose conclusions are themselves too often inadequate if not, on occasion, downright faulty. One might pick out numerous conclusions thus reached with which one might take exception, but as these are incidental to the main

theme it would not be just to enumerate them here. One can, however, take exception to the inconsistency of the transcription of Chinese sounds as these appear in personal names or in bibliographic titles. Systems of romanization are not matters of personal opinion; if they are to convey any meaning, they must follow recognizable principles. In no reasonable transcription could the letters *tsu*, for example (pp. 31 and 32) be taken to refer, as they here do, to the Chinese word for "history" (usually transcribed by English-speaking peoples as *shih*). It is the frequency of these divergences that invests them with an importance that a few isolated examples would not have.

In the Appendix one will find an up-to-date list of the tablets in a Confucian temple, together with a brief account of each name, and the date when it first appeared in the rituals. In addition, there are three valuable bibliographies of similar studies in European, Japanese, and Chinese languages—so comprehensive, however, that, as the author states, they could not all be utilized in the preparation of this book.

ARTHUR W. HUMMEL.

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JOURNALS AND NEW BOOKS.

THE PHILOSOPHICAL REVIEW. Vol. XLI, 6. Louis de la Forge and the Critique of Substantial Forms: *A. G. A. Balz.* Space, Time, and God. A Chapter in Eighteenth-Century English Philosophy: *John Tull Baker.* The Experimental Philosophy of Robert Boyle (1626–91): *Philip Paul Wiener.* Discussion—Reason and Nature: *E. A. Burtt.*

REVUE DE METAPHYSIQUE ET DE MORALE. 39e Année, No. 3. L'Astrobiologie et la pensée de l'Asie: Essai sur les origines des sciences et des théories morales: *R. Berthelot.* Rémarques sur les principales implications métaphysiques des théories et des idées récentes de la physique: *J. Joergensen.* Qu'est-ce qu'une philosophie chrétienne?: *M. Souriau.*

Blumenfeld, Walter: Sinn und Unsinn. München: Ernst Reinhardt. 1933. 110 pp. 4.20 M.

Freund, Ludwig: Philosophie ein unlösbares Problem. München: Ernst Reinhardt. 1933. 53 pp. 2.50 M.

Gibson, A. Boyce: The Philosophy of Descartes. London: Methuen & Co., Ltd. New York: E. P. Dutton & Co., Inc. 1932. xiii + 382 pp. $5.00.

Heussi, Karl: Die Krisis des Historismus. Tübingen: J. C. B. Mohr (Paul Siebeck). 1932. 104 pp. 4.20 M.

Höchsmann, Franz Xaver: Der Weg zum Sinn des Seins. Wien: L. W. Seider & Sohn. 1933. 268 pp. $1.20.

Jaouen, Jean: La Formation sociale dans l'Enseignement secondaire. (Les Sciences et l'Art de l'Education.) Juvisy: Les Editions du Cerf. 1932. 194 pp.

Martin, Everett Dean: Civilizing Ourselves. Intellectual Maturity in the Modern World. New York: W. W. Norton & Company, Inc. 1932. xi + 329 pp. $3.00.

Rivenburg, Narola Elizabeth: Harriet Martineau. An Example of Victorian Conflict. (Ph. D. dissertation, Columbia University, 1932.) Privately printed. 110 pp.

Sahuque, Adrienne: Les Dogmes Sexuels. Paris: Félix Alcan. 1932. 375 pp. 30 fr.

Spinetti, Gastone Silvano: La Reazione Morale. Roma: Angelo Signorelli. 1933. vii + 82 pp.

Wolff, Gustav: Leben und Erkennen: Vorarbeiten zu einer biologischen Philosophie. München: Ernst Reinhardt. 1933. 442 pp. 11.50 M.

NOTES AND NEWS

The Open Court Publishing Company announces a change in the publication of *The Monist* from a quarterly to a bi-annual. It will be published in January and July beginning January, 1933. The yearly subscription price will be $2.00. Single copies will remain at $1.10.

Duke University, Durham, N. C., announces a new psychological quarterly to be known as *Character and Personality*. Publication will begin in September, 1932, and continue thereafter in the months of December, March, June, and September. A British edition will also be issued simultaneously in London, and a German edition in Berlin. Annual subscription price is $2.00. The editor will be Robert Saudek (London) and among members of the editorial board, are William McDougall, Alfred Adler, Pierre Janet, C. G. Jung, Johannes Lange.